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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,777	12/10/2001	Ameel M. Kamboh	2204/B10	3363

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EXAMINER

SWEARINGEN, JEFFREY R

ART UNIT	PAPER NUMBER
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2145

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,777

Applicant(s)

KAMBOH ET AL.

Examiner

Jeffrey R. Swearingen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figure 1, items 104, 106, 108, and 110. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 10 is objected to because of the following informalities: Claim 10 refers to the "set or routing protocol" and the Examiner believes Applicant means "the set of routing protocol". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3, 13 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: The Examiner is unclear what the relationship is between the separate processor and the routing processors based upon the wording of claims 3, 13, and 16. The Examiner interprets claims

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3, 13, and 16 in the interest of compact prosecution to state that the routing table manager is present in the router, as claims 3, 13, and 16 are extremely unclear to the Examiner.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-3, 7-10, and 13-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Pages 10-12 of the disclosure have given a definition of processor that does not limit the processor to hardware embodiments. Applicant has defined processors as including software embodiments. Applicant has further defined said software embodiments to include embodiments which are intangible. See disclosure, page 11, line 6 – page 12, line 25. Applicant has stated that software embodiments of the present invention may be embodied in intangible communications technologies such as optical technologies, wireless technologies, and networking technologies which would allow the invention to be downloaded over a signal carrying medium. Such embodiments are not tangible and are therefore non-statutory.

7. To overcome this type of 101 rejection, Applicant must amend the claims and disclosure to limit the embodiments of the invention to tangible embodiments such as computer readable storage media (e.g. CD-ROM, memory, etc.). Applicant should note that all submitted claims which referred to a memory were considered statutory under 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Nilakantan et al. (U.S. Patent No. 5,541,911).

10. In regard to claim 1, Nilakantan discloses *at least one interface for receiving and transmitting data packets* (Abstract; column 2, lines 22-28; column 4, line 65; column 6, line 41); *a set of routing processors coupled to the at least one interface, each routing processor associated with a routing protocol for determining a set of routes* (column 4, line 61 – column 5, line 14); *and a routing table manager coupled to the set of routing processors, for maintaining a forwarding table of routes provided by the set of routing processors* (column 6, lines 58-65).

11. In regard to claim 2, Nilakantan is applied as in claim 1. Nilakantan further discloses *including a set of fast forward engines coupled to the at least one interface and the routing table manager for forwarding a data packet based on the forwarding table*. (column 16, lines 30-50; Applicant has claimed forwarding of packets through a router using a routing table)

12. In regard to claim 4, Nilakantan is applied as in claim 1. The presence of memory in a router is inherent.

13. In regard to claim 5, Nilakantan is applied as in claim 1. The presence of RAM, cache memory, and queue memory (buffering) is inherent to all routers.

14. In regard to claim 6, Nilakantan is applied as in claim 3. It is inherent that the forwarding table is stored in memory in the Nilakantan router.

15. In regard to claim 7, Nilakantan is applied as in claim 1. Nilakantan further discloses *a control data module coupled to the at least one interface for receiving and processing control data messages from a control data bus* (column 8, lines 34-42); *and a routing data module coupled to the at least one interface and the set of routing processors for receiving and processing routing data messages from a routing data bus* (column 8, lines 42-46).

16. The limitations of claim 9 are substantially the same as the limitations of claim 1; therefore the rejection of claim 1 is applied against claim 9.

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17. In regard to claim 10, Nilakantan is applied as in claim 9. Nilakantan further discloses a *routing table manager coupled to the set of routing processors for updating the forwarding table*. (column 8, lines 56-59; column 16, lines 25-65) Changing status about nodes is updating the forwarding table.
18. The limitations of claim 11 are substantially the same as the limitations of claim 4; therefore the rejection of claim 4 is applied against claim 11.
19. The limitations of claim 12 are substantially the same as the limitations of claim 5; therefore the rejection of claim 5 is applied against claim 12.
20. The limitations of claim 14 are substantially the same as the limitations of claim 1; therefore the rejection of claim 1 is applied against claim 14.
21. The limitations of claim 15 are substantially the same as the limitations of claim 2; therefore the rejection of claim 2 is applied against claim 15.
22. The limitations of claim 17 are substantially the same as the limitations of claim 7; therefore the rejection of claim 7 is applied against claim 17.
23. The limitations of claim 19 are substantially the same as the limitations of claim 4; therefore the rejection of claim 4 is applied against claim 19.

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. Claims 3, 8, 13, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nilakantan in view of Zheng et al. (U.S. Patent No. 6,611,522).
26. In regard to claims 3, 8, 13, 16, and 18, Nilakantan discloses a router for forwarding packets. Nilakantan fails to disclose the ability to combine or separate different processes on processors. However, Zheng in the same field of endeavor of forwarding data packets during routing teaches in

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column 10, line 46 – column 11, line 5 the use of ASIC circuits in implementation of a router. ASICs for different data processing and forwarding modules may be combined into a single ASIC (column 11, line 1) or multiple, separate ASICs (column 11, lines 1-3). An ASIC can be referred to as a processor. Therefore, in regard to claims 3, 13, and 16, it would be obvious to one of ordinary skill in the art to combine the teachings of Zheng with the Nilakantan invention to allow for less circuitry to be used in implementing a router. Likewise, in regard to claims 8 and 18, it would be obvious to one of ordinary skill in the art to combine the teachings of Zheng with the Nilakantan invention to allow for more parallelization of operations by separating processes to different circuitry.

Conclusion

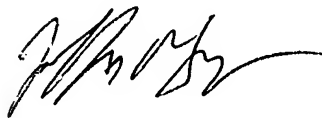
- | | | |
|-----|---|---------------------------|
| 27. | The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. | |
| 28. | Rehkter | U.S. Patent No. 5,964,841 |
| 29. | Civanlar et al. | U.S. Patent No. 6,078,963 |
| 30. | Lin et al. | U.S. Patent No. 6,282,575 |
| 31. | Varghese et al. | U.S. Patent No. 6,449,256 |
| 32. | Hirota et al. | U.S. Patent No. 6,542,496 |
| 33. | Basso et al. | U.S. Patent No. 6,658,481 |

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'J. M. S.', located on the left side of the page.A handwritten signature in black ink, appearing to be 'Rupal Dharia', located at the bottom right of the page.

RUPAL DHARIA
SUPERVISORY PATENT EXAMINER